

**CONTROL OF EXTERNALLY INDUCED CURRENT  
IN AN IMPLANTABLE MEDICAL DEVICE**

Abstract of the Invention

The present invention takes the form of a current limiting apparatus and method for limiting current flow, induced when the level of an external signal is greater than an external signal threshold signal level, in a conductive loop formed by a medical device implanted within a living organism having electrically excitable tissue. The system includes an implantable pulse generator (IPG) system having a housing, a signal generator disposed in the housing that generates an electrical signal, and at least one lead extending from the housing to convey electrical signal to the patient. To limit the induced current flow, the IPG includes current limiting componentry, an impedance increasing element, and/or alternating current blocking elements. These components provide an alternating current impedance path to the electrical ground from a lead coupled to the capacitive element. Also disclosed are techniques for reducing the effective surface area of the current inducing loop caused by the IPG system.